

## In the Claims

1. (currently amended) An ink jet ink comprising at least one compound selected from the group consisting of

a) the dialkyl hydroxylamine stabilizers and

b) the nitron stabilizers

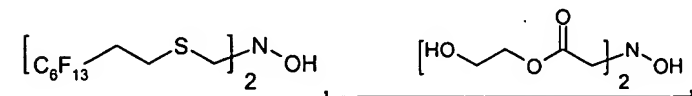
or

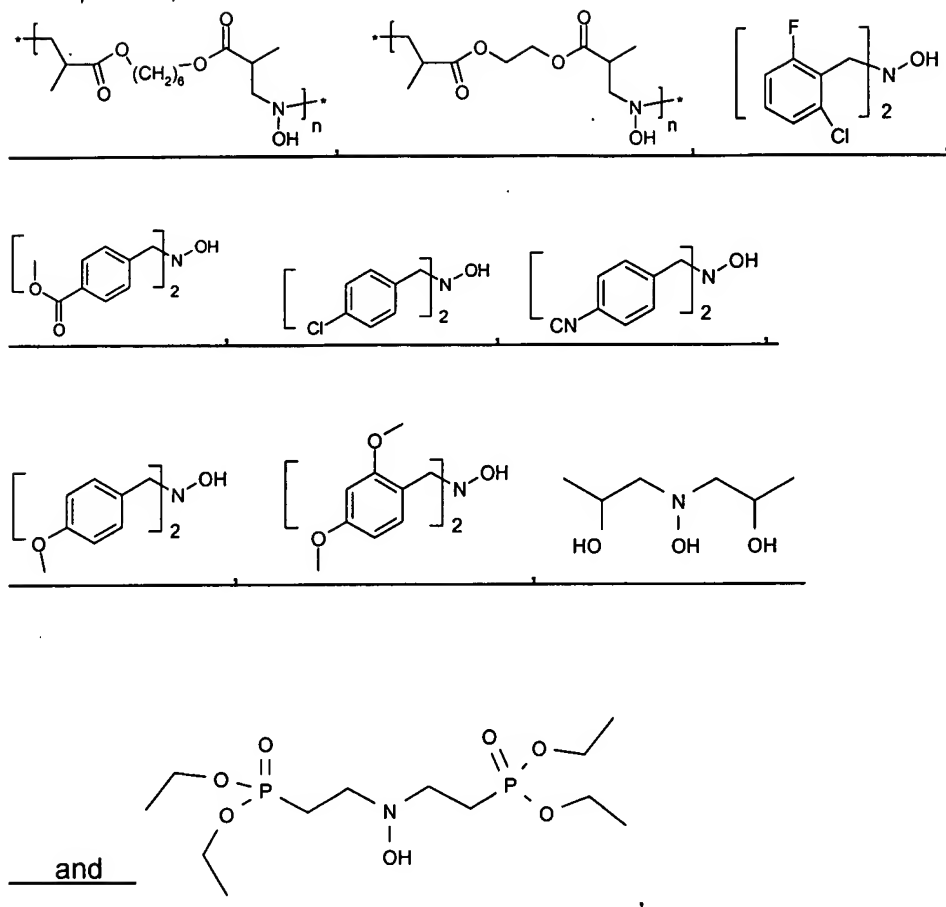
an ink jet system comprising a recording material and at least one colored ink to be applied to the recording material by means of an ink jet nozzle, wherein the recording material or the at least one colored ink comprises at least one compound selected from the group consisting of

a) the dialkyl hydroxylamine stabilizers and

b) the nitron stabilizers

where the dialkyl hydroxylamine stabilizers are selected from the group consisting of N,N-dibenzylhydroxylamine, N,N-dimethylhydroxylamine, N,N-bis(2-hydroxypropyl)hydroxylamine, N,N-bis(3-hydroxypropyl)hydroxylamine, N,N-bis(2-carboxyethyl)hydroxylamine, N,N-bis(benzylthiomethyl)hydroxylamine, N,N-dioctylhydroxylamine, N,N-dilaurylhydroxylamine, N,N-didodecylhydroxylamine, N,N-ditetradecylhydroxylamine, N,N-dihexadecylhydroxylamine, N,N-dioctadecylhydroxylamine, N-hexadecyl-N-tetradecylhydroxylamine, N-hexadecyl-N-heptadecylhydroxylamine, N-hexadecyl-N-octadecylhydroxylamine, N-heptadecyl-N-octadecylhydroxylamine, N-methyl-N-octadecylhydroxylamine, N,N-di(hydrogenated tallow)hydroxylamine,





where  $n = 2$  to 200 of the formula



where

$R_1$  is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms or aralkyl of 7 to 9 carbon atoms; or  $R_1$  is said alkyl, cycloalkyl or aralkyl substituted by one to six alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbons atoms, halogen, cyano,  $E_1O$ ,  $E_1CO$ ,  $E_1COO$ ,  $E_1S$ ,  $E_1SO$ ,  $E_1SO_2$ ,  $NH_2$ ,  $NHE_1$ ,  $NE_1E_2$ ,  $PO(OE_1)(OE_2)$  or  $OPO(OE_1)(OE_2)$  groups;

$R_2$  is hydrogen or independently has the same meaning as  $R_1$ , where at least one of  $R_1$  and  $R_2$  contains a hydrogen alpha to the  $NOH$  moiety; and

~~\_\_\_\_\_ E<sub>1</sub> and E<sub>2</sub> independently are hydrogen, alkyl of 1 to 8 carbon atoms or alkyl of 1 to 8 carbon atoms substituted by one to three hydroxyl groups; or E<sub>1</sub> and E<sub>2</sub> independently are an oligomer of poly(ethylene glycol) or poly(propylene glycol) terminated by hydroxyl, methoxy, acetate or propionate, where the oligomer has a molecular weight up to about 500; and~~

~~\_\_\_\_\_ with the proviso that diethyl hydroxylamine is excluded.~~

**2. (previously presented)** An ink jet ink or ink jet system according to claim 1 which comprises at least one compound selected from the group consisting of the dialkyl hydroxylamine stabilizers.

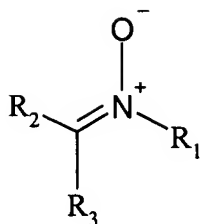
**3. (canceled)**

**4. (canceled)**

**5. (previously presented)** An ink jet ink or ink jet system according to claim 2 where the dialkyl hydroxylamine stabilizers are N,N-bis(2-hydroxypropyl)hydroxylamine, N,N-bis(3-hydroxypropyl)hydroxylamine, N,N-dibenzylhydroxylamine or N,N-di(hydrogenated tallow)hydroxylamine.

**6. (previously presented)** An ink jet ink or ink jet system according to claim 1 which comprises at least one compound selected from the group consisting of the nitron stabilizers.

**7. (previously presented)** An ink jet ink or ink jet system according to claim 6 where the nitron stabilizers are of the formula



wherein

R<sub>1</sub> is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms or aralkyl of 7 to 9 carbon atoms; or R<sub>1</sub> is said alkyl, cycloalkyl or aralkyl substituted by one to six alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbon atoms, halogen, cyano, E<sub>1</sub>O-, E<sub>1</sub>CO-, M<sup>+</sup>O<sup>-</sup>CO-, E<sub>1</sub>OCO-, E<sub>1</sub>COO-, E<sub>1</sub>S-, E<sub>1</sub>SO-, E<sub>1</sub>SO<sub>2</sub>-, -NH<sub>2</sub>, -NHE<sub>1</sub>, -NE<sub>1</sub>E<sub>2</sub>, -PO(OE<sub>1</sub>)(OE<sub>2</sub>) or -OPO(OE<sub>1</sub>)(OE<sub>2</sub>) groups;

R<sub>2</sub> is hydrogen or independently has the same meaning as R<sub>1</sub>; or

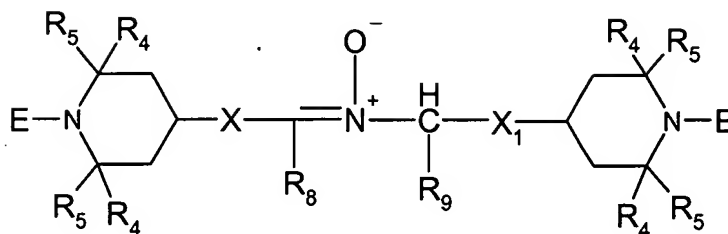
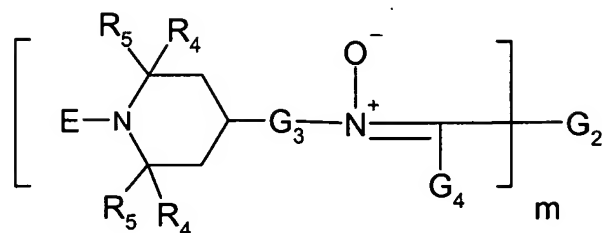
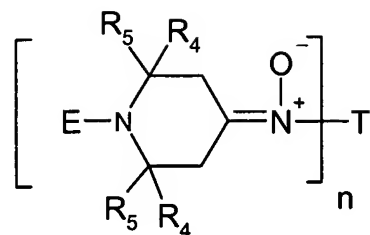
R<sub>1</sub> and R<sub>2</sub> together form a C<sub>2-12</sub>heterocyclic ring which is unsubstituted or is substituted by one to three three alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbon atoms, halogen, cyano, E<sub>1</sub>O-, E<sub>1</sub>CO-, M<sup>+</sup>O<sup>-</sup>CO-, E<sub>1</sub>OCO-, E<sub>1</sub>COO-, E<sub>1</sub>S-, E<sub>1</sub>SO-, E<sub>1</sub>SO<sub>2</sub>-, -NH<sub>2</sub>, -NHE<sub>1</sub>, -NE<sub>1</sub>E<sub>2</sub>, -PO(OE<sub>1</sub>)(OE<sub>2</sub>) or -OPO(OE<sub>1</sub>)(OE<sub>2</sub>) groups; or where said C<sub>2-12</sub>heterocyclic ring is interrupted by one to three -O-, -NE<sub>1</sub>-, -CO-, -CONE<sub>1</sub>-, -S-, -SO-, -SO<sub>2</sub>-, -COO-, -PO<sub>3</sub>- or -PO<sub>4</sub>E<sub>1</sub> groups; or where said heterocyclic ring is both substituted and interrupted by said groups;

M<sup>+</sup> is a mono-, di- or tri-valent metal cation;

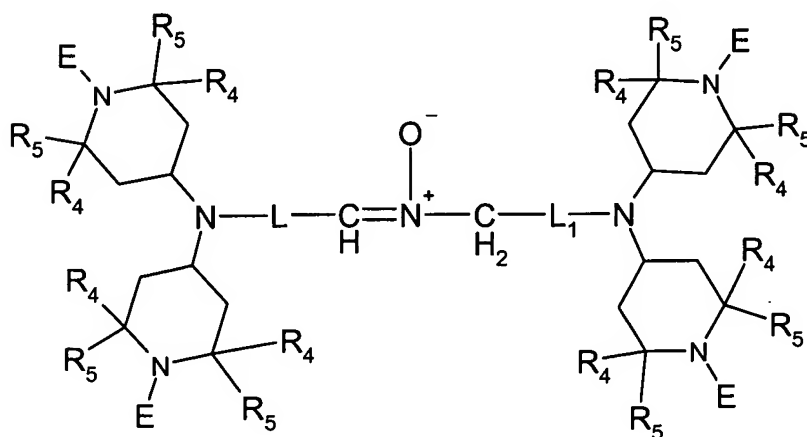
E<sub>1</sub> and E<sub>2</sub> independently are hydrogen, alkyl of 1 to 8 carbon atoms or alkyl of 1 to 8 carbon atoms substituted by one to three hydroxyl groups; or E<sub>1</sub> and E<sub>2</sub> independently are an oligomer of poly(ethylene glycol) or poly(propylene glycol) terminated by hydroxyl, methoxy, acetate or propionate, where the oligomer has a molecular weight up to about 500; and

R<sub>3</sub> independently has the same meaning as R<sub>1</sub>;

or the nitrones are of the formula



and



wherein

E is hydrogen, oxyl, hydroxyl, alkyl of 1 to 18 carbon atoms, alkenyl of 3 to 18 carbon atoms, cycloalkyl of 5 to 12 carbon atoms, hydroxyalkyl of 2 to 6 carbon atoms, alkoxyalkyl of 2 to 20 carbon atoms, alkanoyl of 1 to 18 carbon atoms, alkoxy of 1 to 18 carbon atoms, cycloalkoxy of 5 to 12 carbon atoms, aryloxy of 6 to 10 carbon atoms, hydroxyalkoxy of 2 to 6 carbon atoms, alkoxyalkoxy of 2 to 20 carbon atoms, aralkoxy of 7 to 15 carbon atoms or a bicyclo or tricycloaliphatic oxy radical of 7 to 12 carbon atoms,

R<sub>4</sub> and R<sub>5</sub> are independently alkyl of 1 to 4 carbon atoms or together R<sub>3</sub> and R<sub>4</sub> are pentamethylene,

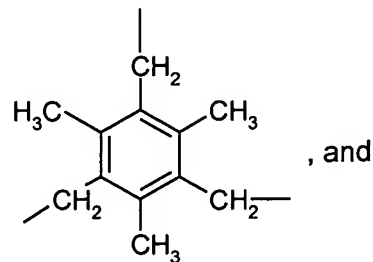
n is 1, 2, 3 or 4,

when n is 1, T is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms, aralkyl of 7 to 9 carbon atoms or aralkyl of 7 to 9 carbon atoms substituted by alkyl of 1 to 4 carbon atoms or by one or two halogen atoms, said alkyl interrupted by one or more oxygen atoms, cyanoethyl, alkenyl of 3 to 8 carbon atoms, alkoxycarbonylalkyl of 4 to 36 carbon atoms where alkyl is of 1 to 4 carbon atoms,

when n is 2, T is alkylene of 2 to 12 carbon atoms, arylene of 6 to 10 carbon atoms, xylylene, -CH<sub>2</sub>CHOHCH<sub>2</sub>-, -CH<sub>2</sub>CHOHCH<sub>2</sub>-O-G<sub>1</sub>-O-CH<sub>2</sub>CHOHCH<sub>2</sub>-, -CH<sub>2</sub>-phenylene-COO-G<sub>1</sub>-OCO-phenylene-CH<sub>2</sub>- or -CH<sub>2</sub>-phenylene-CH<sub>2</sub>-OCO-G<sub>1</sub>-COO-CH<sub>2</sub>-phenylene-CH<sub>2</sub>-,

G<sub>1</sub> is alkylene of 2 to 12 carbon atoms, arylene of 6 to 10 carbon atoms or cycloalkylene of 6 to 12 carbon atoms,

when n is 3, T is alkanetriyl of 3 to 6 carbon atoms, or is



when n is 4, T is alkanetetrayl of 4 to 6 carbon atoms,

G<sub>3</sub> is a direct bond, -OCO-(C<sub>q</sub>H<sub>2q</sub>)<sub>q</sub>-, -OCO-phenylene-CH<sub>2</sub>-, -NG<sub>4</sub>-CO-(C<sub>q</sub>H<sub>2q</sub>)<sub>q</sub>- or -NG<sub>4</sub>-CO-phenylene-CH<sub>2</sub>- where q is 1 to 12,

G<sub>4</sub> is hydrogen, alkyl of 1 to 8 carbon atoms or phenyl,

m is 1 or 2,

when m is 1, G<sub>2</sub> is alkyl of 1 to 36 carbon atoms, said alkyl interrupted by one or more oxygen atoms, cyanomethyl, cycloalkyl of 6 to 8 carbon atoms, alkenyl of 2 to 8 carbon atoms, aryl of 6 to 10 carbon atoms, or aryl of 6 to 10 carbon atoms substituted by alkyl of 1 to 4 carbon atoms or by one or two halogen atoms, or alkoxy-carbonylalkyl of 4 to 36 carbon atoms where alkyl is of 1 to 4 carbon atoms, and

when m is 2, G<sub>2</sub> is alkylene of 2 to 12 carbon atoms or arylene of 6 to 10 carbon atoms,

X and X<sub>1</sub> are independently Q-G, where Q is -O-, -COO-, -OCO- or -NR<sub>6</sub>-,

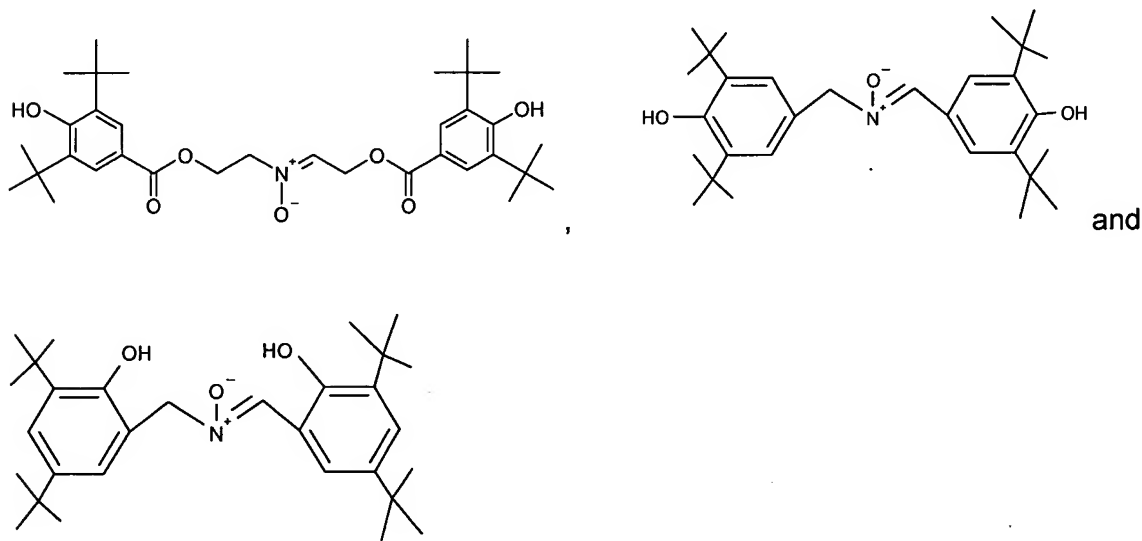
R<sub>6</sub> is hydrogen, alkyl of 1 to 8 carbon atoms, cycloalkyl of 5 to 12 carbon atoms, cyanoethyl, aryl of 6 to 10 carbon atoms, aralkyl of 7 to 15 carbon atoms or -CH<sub>2</sub>CHR<sub>7</sub>OH, and R<sub>7</sub> is hydrogen, methyl or phenyl, with Q being attached to the piperidiny ring,

G is alkylene of 1 to 4 carbon atoms, arylene of 6 to 10 carbon atoms or arylene-alkylene of 7 to 15 carbon atoms,

R<sub>8</sub> and R<sub>9</sub> are independently hydrogen or alkyl of 1 to 8 carbon atoms, and

L and L<sub>1</sub> are independently -CO-alkylene of 2 to 5 carbon atoms or -CO-phenylene-with the carbonyl group being attached to the N atom.

**8. (previously presented)** An ink jet ink or ink jet system according to claim 6 where the nitron stabilizers are selected from the group consisting of N-benzyl- $\alpha$ -phenylnitron, N-ethyl- $\alpha$ -methylnitron, N-octyl- $\alpha$ -heptylnitron, N-lauryl- $\alpha$ -undecylnitron, N-tetradecyl- $\alpha$ -tridcylnitron, N-hexadecyl- $\alpha$ -pentadecylnitron, N-octadecyl- $\alpha$ -heptadecylnitron, N-hexadecyl- $\alpha$ -heptadecylnitron, N-octadecyl- $\alpha$ -pentadecylnitron, N-heptadecyl- $\alpha$ -heptadecylnitron, N-octadecyl- $\alpha$ -hexadecylnitron, N-methyl- $\alpha$ -heptadecylnitron, the nitron derived from N,N-di(hydrogenated tallow)hydroxylamine, N-benzyl- $\alpha$ -methylnitron, N-butyl- $\alpha$ -propylnitron,



**9. (previously presented)** An ink jet ink or ink jet system according to claim 6 where the nitron stabilizers are N-benzyl- $\alpha$ -phenylnitron or N-ethyl- $\alpha$ -methylnitron.

**10. (previously presented)** An ink jet ink or ink jet system according to claim 7 in which E is hydrogen, hydroxyl, alkyl of 1 to 12 carbon atoms, alkyl, benzyl, alkanoyl of 2 to 4 carbon atoms, alkoxy of 1 to 12 carbon atoms, cyclohexyloxy or  $\alpha$ -methylbenzyloxy.

**11. (previously presented)** An ink jet ink or ink jet system according to claim 7 in which



R<sub>4</sub> and R<sub>5</sub> are each methyl,

when n is 1, T is hydrogen, alkyl of 1 to 18 carbon atoms, benzyl or alkoxy carbonylalkyl of 4 to 18 carbon atoms where the alkyl is of 2 to 4 carbon atoms,

when n is 2, T is alkylene of 2 to 8 carbon atoms or is p-xylylene,

when n is 3, T is glyceryl,

when n is 4, T is pentaerythrityl,

G<sub>3</sub> is a direct bond,

G<sub>4</sub> is hydrogen,

when m is 1, G<sub>2</sub> is alkyl of 1 to 12 carbon atoms or phenyl,

when m is 2, G<sub>2</sub> is alkylene of 3 to 8 carbon atoms or phenylene,

X and X<sub>1</sub> are the same,

R<sub>8</sub> and R<sub>9</sub> are each hydrogen, and

L and L<sub>1</sub> are the same and are -CO-CH<sub>2</sub>- or -CO-phenylene-.

**12. (previously presented)** An ink jet ink or ink jet system according to claim 6 where the nitron stabilizers are selected from the group consisting of  $\alpha$ -phenyl-N-(2,2,6,6-tetramethylpiperidin-4-yl)nitron,  $\alpha$ -phenyl-N-(1,2,2,6,6-pentamethylpiperidin-4-yl)nitron,  $\alpha$ -phenyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitron,  $\alpha$ -phenyl-N-(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitron,  $\alpha,\alpha'$ -p-phenylene-N,N'-bis[(2,2,6,6-tetramethylpiperidin-4-yl)nitron], N-benzyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-ylidene)amine-N-oxide,  $\alpha$ -n-propyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitron,  $\alpha$ -isopropyl-N-(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitron,  $\alpha,\alpha'$ -tetramethylene-N,N'-bis[(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitron],  $\alpha$ -n-

propyl-N-(1-acetyl-2,2,6,6-tetramethylpiperidin-4-yl)nitron and  $\alpha$ -[4-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yloxy-carbonyl)-phenyl]-N-[4-(1-cyclohexyloxy-2,2,6,6-tetramethyl-piperidin-4-yloxy-carbonyl)benzyl]nitron.

**13-18. (canceled)**

**19. (previously presented)** An ink jet ink or ink jet system according to claim 1 comprising

at least one compound selected from the group consisting of a) the dialkyl hydroxylamine stabilizers and at least one compound selected from the group consisting of b) the nitron stabilizers.

**20. (previously presented)** An ink jet ink according to claim 1 which comprises about 0.01 to about 30% by weight of at least one compound selected from the group consisting of components a) and b), based on the weight of the ink jet ink.

**21. (previously presented)** An ink jet system according to claim 1, wherein the recording material comprises about 1 to about 10000 mg/m<sup>2</sup> of at least one compound selected from the group consisting of components a) and b).

**22. (previously presented)** An ink jet ink or ink jet system according to claim 1 further comprising a UV absorber selected from the group consisting of the hydroxyphenylbenzotriazoles, the tris-aryl-s-triazines, the benzophenones, the  $\alpha$ -cyanoacrylates, the oxanilides, the benzoxazinones, the benzoates and the  $\alpha$ -alkyl cinnamates.

**23. (previously presented)** An ink jet ink or ink jet system according to claim 1 further comprising a UV absorber selected from the group consisting of the hydroxyphenylbenzotriazoles, the tris-aryl-s-triazines and the benzophenones.

**24. (previously presented)** An ink jet ink or ink jet system according to claim 1 further comprising a UV absorber selected from the group consisting of

5-chloro-2-(2-hydroxy-3,5-di-tert-butylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di-tert-butylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di-tert-amylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di- $\alpha$ -cumylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3- $\alpha$ -cumyl-5-tert-octylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-5-tert-octylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-5-methylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3-tert-butyl-5-methylphenyl)-2H-benzotriazole-5-sulfonic acid, sodium salt;  
3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamic acid;  
12-hydroxy-3,6,9-trioxadodecyl 3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamate;  
octyl 3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamate;  
2-(3-tert-butyl-2-hydroxy-5-(2-( $\omega$ -hydroxy-octa-(ethyleneoxy)carbonyl-ethyl)-phenyl)-2H-benzotriazole;  
4,6-bis(2,4-dimethylphenyl)-2-(4-octyloxy-2-hydroxyphenyl)-s-triazine;  
2,4-bis(2-hydroxy-4-butyloxyphenyl)-6-(2,4-bis-butyloxyphenyl)-1,3,5-triazine;  
2-[4-(dodecyloxy/tridecyloxy-2-hydroxypropoxy)-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine;  
the reaction product of tris(2,4-dihydroxyphenyl)-1,3,5-triazine with the mixture of  $\alpha$ -chloropropionic esters (made from isomer mixture of C<sub>7</sub>-C<sub>9</sub>alcohols);  
2,4-dihydroxybenzophenone;  
2,2',4,4'-tetrahydroxy-5,5'-disulfobenzophenone, disodium salt;  
2-hydroxy-4-octyloxybenzophenone;  
2-hydroxy-4-dodecyloxybenzophenone;  
2,4-dihydroxybenzophenone-5-sulfonic acid and salts thereof;  
2-hydroxy-4-methoxybenzophenone-5-sulfonic acid and salts thereof;  
2,2'-dihydroxy-4,4'-dimethoxybenzophenone-5,5'-disodium sulfonate;  
3-(2H-benzotriazol-2-yl)-4-hydroxy-5-sec-butylbenzenesulfonic acid, sodium salt; and  
2-(2'-hydroxy-3'-tert-butyl-5'-polyglycolpropionate-phenyl)benzotriazole.

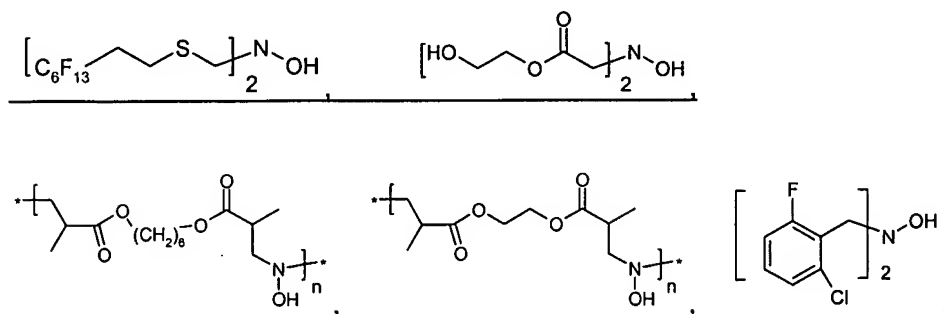
**25. (canceled)**

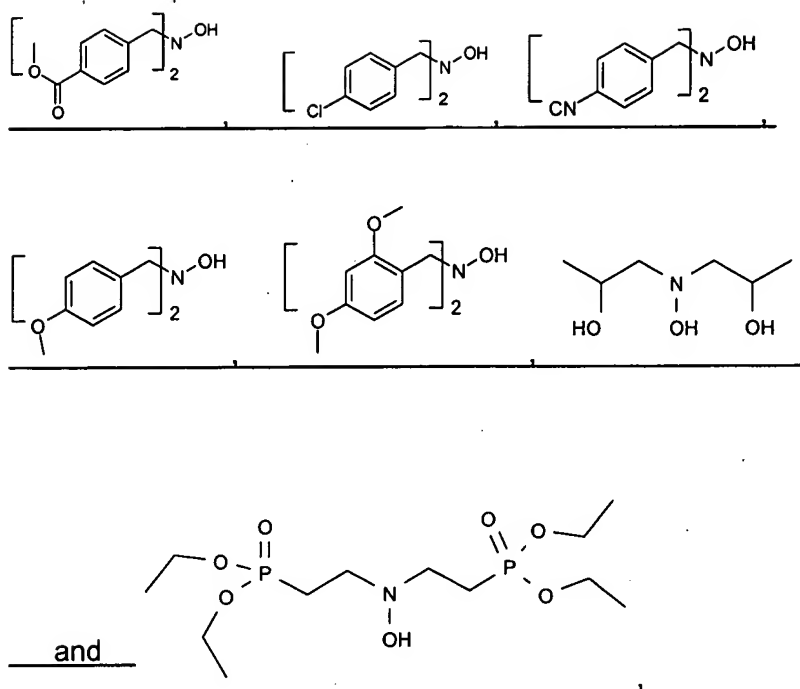
**26. (currently amended)** A process for stabilizing ink jet prints which comprises applying to a recording material for ink jet printing an ink composition comprising a water soluble dye or a solution of a dye in an organic solvent and at least one compound selected from the group consisting of

- a) the dialkyl hydroxylamine stabilizers and
- b) the nitron stabilizers and

drying said recording material

where the dialkyl hydroxylamine stabilizers are selected from the group consisting of N,N-dibenzylhydroxylamine, N,N-dimethylhydroxylamine, N,N-bis(2-hydroxypropyl)hydroxylamine, N,N-bis(3-hydroxypropyl)hydroxylamine, N,N-bis(2-carboxyethyl)hydroxylamine, N,N-bis(benzylthiomethyl)hydroxylamine, N,N-dioctylhydroxylamine, N,N-dilaurylhydroxylamine, N,N-didodecylhydroxylamine, N,N-ditetradecylhydroxylamine, N,N-dihexadecylhydroxylamine, N,N-dioctadecylhydroxylamine, N-hexadecyl-N-tetradecylhydroxylamine, N-hexadecyl-N-heptadecylhydroxylamine, N-hexadecyl-N-octadecylhydroxylamine, N-heptadecyl-N-octadecylhydroxylamine, N-methyl-N-octadecylhydroxylamine, N,N-di(hydrogenated tallow)hydroxylamine,





where  $n = 2$  to of the formula



where

$R_1$  is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms or aralkyl of 7 to 9 carbon atoms; or  $R_1$  is said alkyl, cycloalkyl or aralkyl substituted by one to six alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbons atoms, halogen, cyano,  $E_1O$ ,  $E_1CO$ ,  $E_1COO$ ,  $E_1S$ ,  $E_1SO$ ,  $E_1SO_2$ ,  $NH_2$ ,  $NHE_1$ ,  $NE_1E_2$ ,  $PO(OE_1)(OE_2)$  or  $OPO(OE_1)(OE_2)$  groups;

$R_2$  is hydrogen or independently has the same meaning as  $R_1$ , where at least one of  $R_1$  and  $R_2$  contains a hydrogen alpha to the NOH moiety; and

$E_1$  and  $E_2$  independently are hydrogen, alkyl of 1 to 8 carbon atoms or alkyl of 1 to 8 carbon atoms substituted by one to three hydroxyl groups; or  $E_1$  and  $E_2$  independently are an oligomer of poly(ethylene glycol) or poly(propylene glycol) terminated by hydroxyl, methoxy, acetate or propionate, where the oligomer has a molecular weight up to about 500; and

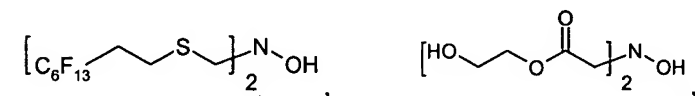
~~with the proviso that diethyl hydroxylamine is excluded.~~

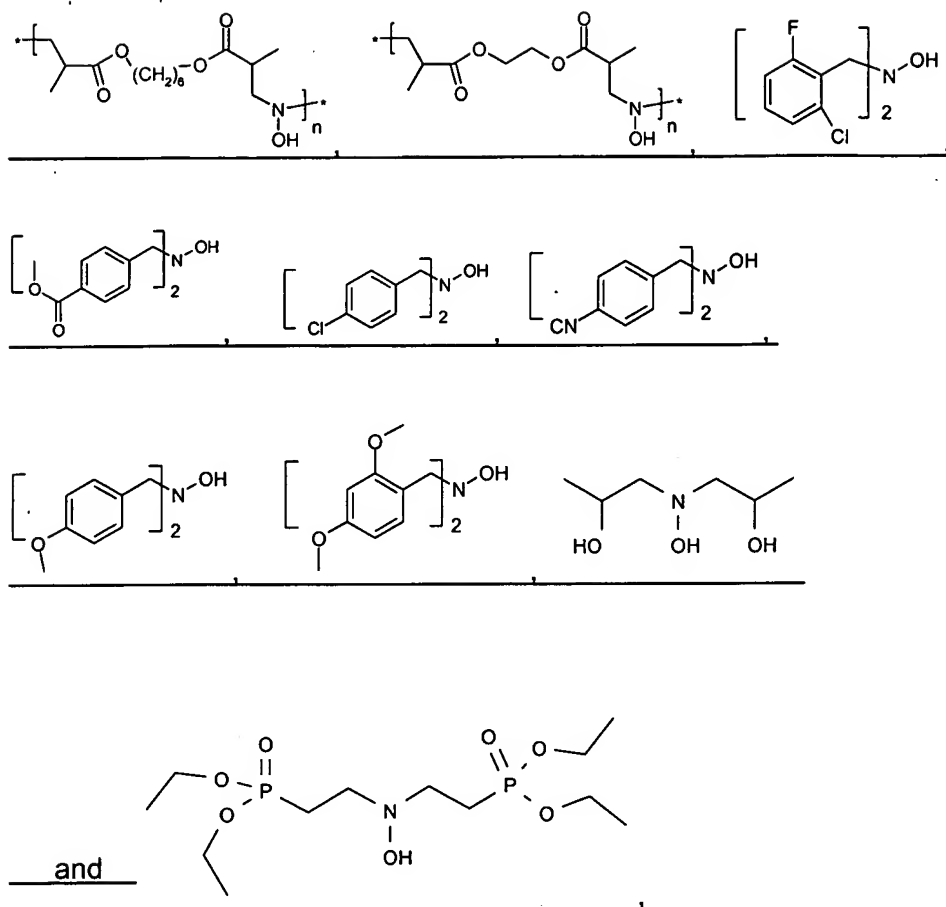
**27. (currently amended)** A process for stabilizing ink jet prints which comprises applying to a recording material for ink jet printing a casting or coating dispersion or an aqueous or organic solution comprising at least one compound selected from the group consisting of

- a) the dialkyl hydroxylamine stabilizers and
- b) the nitron stabilizers and

further applying either an ink composition comprising a water soluble dye or a solution of a dye in an organic solvent; or an ink composition comprising a water soluble dye or a solution of a dye in an organic solvent and at least one compound selected from the group consisting of components a) and b) and drying said recording material

where the dialkyl hydroxylamine stabilizers are selected from the group consisting of N,N-dibenzylhydroxylamine, N,N-dimethylhydroxylamine, N,N-bis(2-hydroxypropyl)hydroxylamine, N,N-bis(3-hydroxypropyl)hydroxylamine, N,N-bis(2-carboxyethyl)hydroxylamine, N,N-bis(benzylthiomethyl)hydroxylamine, N,N-dioctylhydroxylamine, N,N-dilaurylhydroxylamine, N,N-didodecylhydroxylamine, N,N-ditetradecylhydroxylamine, N,N-dihexadecylhydroxylamine, N,N-dioctadecylhydroxylamine, N-hexadecyl-N-tetradecylhydroxylamine, N-hexadecyl-N-heptadecylhydroxylamine, N-hexadecyl-N-octadecylhydroxylamine, N-heptadecyl-N-octadecylhydroxylamine, N-methyl-N-octadecylhydroxylamine, N,N-di(hydrogenated tallow)hydroxylamine,





where  $n = 2$  to  $200$  of the formula



—where

$R_1$  is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms or aralkyl of 7 to 9 carbon atoms; or  $R_1$  is said alkyl, cycloalkyl or aralkyl substituted by one to six alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbons atoms, halogen, cyano,  $E_1O$ ,  $E_1CO$ ,  $E_1COO$ ,  $E_1S$ ,  $E_1SO$ ,  $E_1SO_2$ ,  $NH_2$ ,  $NHE_1$ ,  $NE_1E_2$ ,  $PO(OE_1)(OE_2)$  or  $OPO(OE_1)(OE_2)$  groups;

$R_2$  is hydrogen or independently has the same meaning as  $R_1$ , where at least one of  $R_1$  and  $R_2$  contains a hydrogen alpha to the  $NOH$  moiety; and

~~\_\_\_\_\_ E<sub>1</sub> and E<sub>2</sub> independently are hydrogen, alkyl of 1 to 8 carbon atoms or alkyl of 1 to 8 carbon atoms substituted by one to three hydroxyl groups; or E<sub>1</sub> and E<sub>2</sub> independently are an oligomer of poly(ethylene glycol) or poly(propylene glycol) terminated by hydroxyl, methoxy, acetate or propionate, where the oligomer has a molecular weight up to about 500; and~~

~~\_\_\_\_\_ with the proviso that diethyl hydroxylamine is excluded.~~

**28. (previously presented)** An ink jet recording material which is coated with at least one layer which is able to absorb ink, which at least one layer comprises at least one compound selected from the group consisting of

- a) the dialkyl hydroxylamine stabilizers and
- b) the nitron stabilizers

where the dialkyl hydroxylamine stabilizers are of the formula



where

R<sub>1</sub> is alkyl of 1 to 36 carbon atoms, cycloalkyl of 5 to 12 carbon atoms or aralkyl of 7 to 9 carbon atoms; or R<sub>1</sub> is said alkyl, cycloalkyl or aralkyl substituted by one to six alkyl of 1 to 12 carbon atoms, perfluoroalkyl of 1 to 12 carbons atoms, halogen, cyano, E<sub>1</sub>O-, E<sub>1</sub>CO-, E<sub>1</sub>COO-, E<sub>1</sub>S-, E<sub>1</sub>SO-, E<sub>1</sub>SO<sub>2</sub>-, -NH<sub>2</sub>, -NHE<sub>1</sub>, -NE<sub>1</sub>E<sub>2</sub>, -PO(OE<sub>1</sub>)(OE<sub>2</sub>) or -OPO(OE<sub>1</sub>)(OE<sub>2</sub>) groups;

R<sub>2</sub> is hydrogen or independently has the same meaning as R<sub>1</sub>, where at least one of R<sub>1</sub> and R<sub>2</sub> contains a hydrogen alpha to the -NOH moiety; and

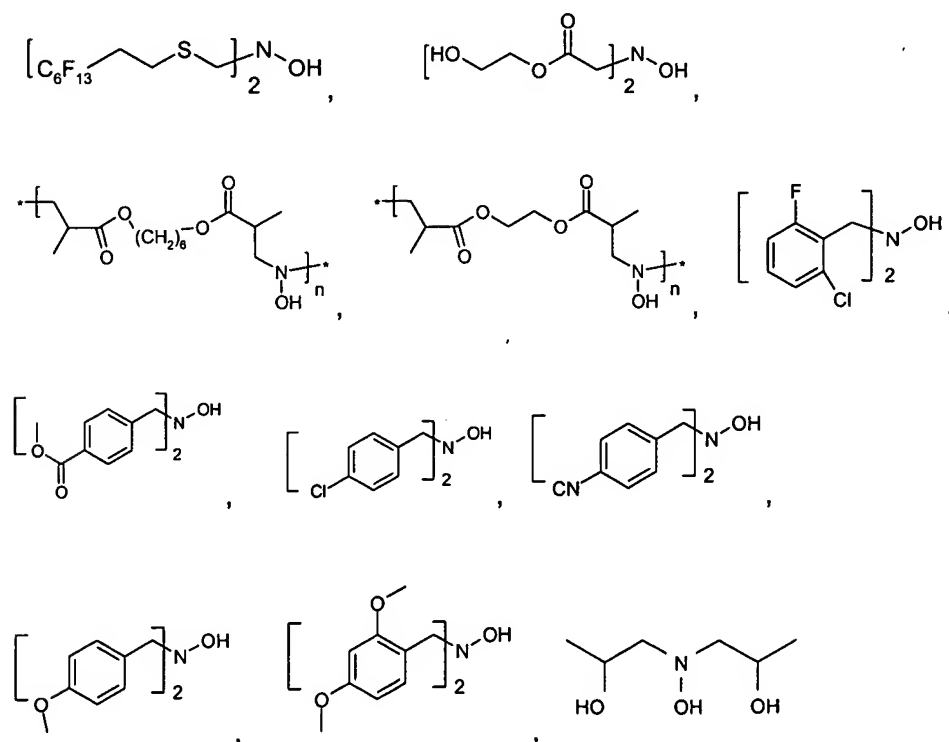
E<sub>1</sub> and E<sub>2</sub> independently are hydrogen, alkyl of 1 to 8 carbon atoms or alkyl of 1 to 8 carbon atoms substituted by one to three hydroxyl groups; or E<sub>1</sub> and E<sub>2</sub> independently are an oligomer of poly(ethylene glycol) or poly(propylene glycol) terminated by hydroxyl, methoxy, acetate or propionate, where the oligomer has a molecular weight up to about 500; and

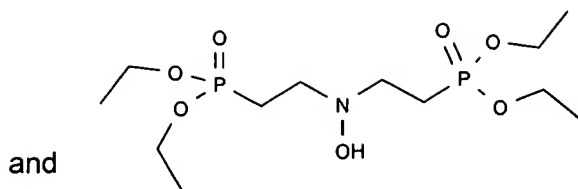


with the proviso that diethyl hydroxylamine is excluded.

**29. (previously presented)** An ink jet ink recording material according to claim 28 which comprises at least one compound selected from the group consisting of the dialkyl hydroxylamine stabilizers.

**30. (previously presented)** An ink jet recording material according to claim 29 where the dialkyl hydroxylamine stabilizers are selected from the group consisting of N,N-dibenzylhydroxylamine, N,N-dimethylhydroxylamine, N,N-bis(2-hydroxypropyl)hydroxylamine, N,N-bis(3-hydroxypropyl)hydroxylamine, N,N-bis(2-carboxyethyl)hydroxylamine, N,N-bis(benzylthiomethyl)hydroxylamine, N,N-dioctylhydroxylamine, N,N-dilaurylhydroxylamine, N,N-didodecylhydroxylamine, N,N-ditetradecylhydroxylamine, N,N-dihexadecylhydroxylamine, N,N-dioctadecylhydroxylamine, N-hexadecyl-N-tetradecylhydroxylamine, N-hexadecyl-N-heptadecylhydroxylamine, N-hexadecyl-N-octadecylhydroxylamine, N-heptadecyl-N-octadecylhydroxylamine, N-methyl-N-octadecylhydroxylamine, N,N-di(hydrogenated tallow)hydroxylamine,

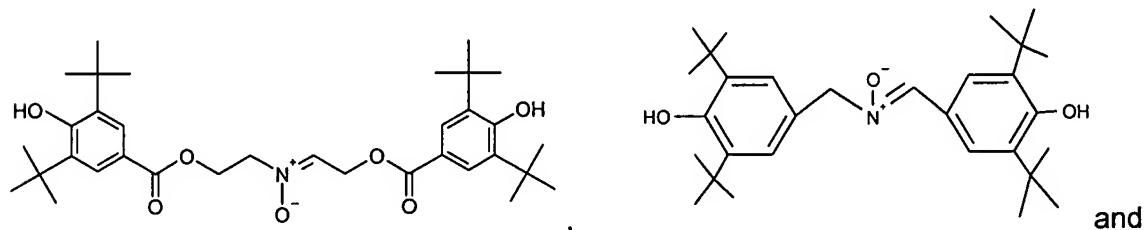


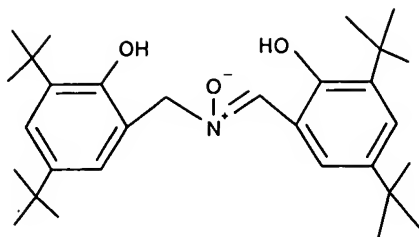


where  $n = 2$  to 200.

**31. (previously presented)** An ink jet recording material according to claim **28** which comprises at least one compound selected from the group consisting of the nitron stabilizers.

**32. (previously presented)** An ink jet recording material according to claim **31** where the nitron stabilizers are selected from the group consisting of N-benzyl- $\alpha$ -phenylnitron, N-ethyl- $\alpha$ -methylnitron, N-octyl- $\alpha$ -heptylnitron, N-lauryl- $\alpha$ -undecylnitron, N-tetradecyl- $\alpha$ -tridcylnitron, N-hexadecyl- $\alpha$ -pentadecylnitron, N-octadecyl- $\alpha$ -heptadecylnitron, N-hexadecyl- $\alpha$ -heptadecylnitron, N-octadecyl- $\alpha$ -pentadecylnitron, N-heptadecyl- $\alpha$ -heptadecylnitron, N-octadecyl- $\alpha$ -hexadecylnitron, N-methyl- $\alpha$ -heptadecylnitron, the nitron derived from N,N-di(hydrogenated tallow)hydroxylamine, N-benzyl- $\alpha$ -methylnitron, N-butyl- $\alpha$ -propylnitron,





**33. (previously presented)** An ink jet recording material according to claim 31 where the nitronium stabilizers are selected from the group consisting of  $\alpha$ -phenyl-N-(2,2,6,6-tetramethylpiperidin-4-yl)nitronium,  $\alpha$ -phenyl-N-(1,2,2,6,6-pentamethylpiperidin-4-yl)nitronium,  $\alpha$ -phenyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitronium,  $\alpha$ -phenyl-N-(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitronium,  $\alpha,\alpha'$ -p-phenylene-N,N'-bis[(2,2,6,6-tetramethylpiperidin-4-yl)nitronium], N-benzyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-ylidene)amine-N-oxide,  $\alpha$ -n-propyl-N-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitronium,  $\alpha$ -isopropyl-N-(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitronium,  $\alpha,\alpha'$ -tetramethylene-N,N'-bis[(1-octyloxy-2,2,6,6-tetramethylpiperidin-4-yl)nitronium],  $\alpha$ -n-propyl-N-(1-acetyl-2,2,6,6-tetramethylpiperidin-4-yl)nitronium and  $\alpha$ -[4-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yloxy)carbonyl]-phenyl-N-[4-(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yloxy)carbonyl]benzyl]nitronium.

**34. (previously presented)** An ink jet recording material according to claim 28 comprising

at least one compound selected from the group consisting of a) the dialkyl hydroxylamine stabilizers and at least one compound selected from the group consisting of b) the nitronium stabilizers.

**35. (previously presented)** An ink jet recording material according to claim 28 which comprises about 1 to about 10000 mg/m<sup>2</sup> of at least one compound selected from the group consisting of components a) and b).

**36. (previously presented)** An ink jet recording material according to claim **28** further comprising a UV absorber selected from the group consisting of the hydroxyphenylbenzotriazoles, the tris-aryl-s-triazines, the benzophenones, the  $\alpha$ -cyanoacrylates, the oxanilides, the benzoxazinones, the benzoates and the  $\alpha$ -alkyl cinnamates.

**37. (previously presented)** An ink jet recording material according to claim **28** further comprising a UV absorber selected from the group consisting of

5-chloro-2-(2-hydroxy-3,5-di-tert-butylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di-tert-butylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di-tert-amylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3,5-di- $\alpha$ -cumylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3- $\alpha$ -cumyl-5-tert-octylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-5-tert-octylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-5-methylphenyl)-2H-benzotriazole;  
2-(2-hydroxy-3-tert-butyl-5-methylphenyl)-2H-benzotriazole-5-sulfonic acid, sodium salt;  
3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamic acid;  
12-hydroxy-3,6,9-trioxadodecyl 3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamate;  
octyl 3-tert-butyl-4-hydroxy-5-(2H-benzotriazol-2-yl)-hydrocinnamate;  
2-(3-tert-butyl-2-hydroxy-5-(2-( $\omega$ -hydroxy-octa-(ethyleneoxy)carbonyl-ethyl)-phenyl)-2H-benzotriazole;  
4,6-bis(2,4-dimethylphenyl)-2-(4-octyloxy-2-hydroxyphenyl)-s-triazine;  
2,4-bis(2-hydroxy-4-butyloxyphenyl)-6-(2,4-bis-butyloxyphenyl)-1,3,5-triazine;  
2-[4-(dodecyloxy/tridecyloxy-2-hydroxypropoxy)-2-hydroxyphenyl]-4,6-bis(2,4-dimethylphenyl)-1,3,5-triazine;  
the reaction product of tris(2,4-dihydroxyphenyl)-1,3,5-triazine with the mixture of  $\alpha$ -chloropropionic esters (made from isomer mixture of C<sub>7</sub>-C<sub>9</sub>alcohols);  
2,4-dihydroxybenzophenone;  
2,2',4,4'-tetrahydroxy-5,5'-disulfobenzophenone, disodium salt;  
2-hydroxy-4-octyloxybenzophenone;  
2-hydroxy-4-dodecyloxybenzophenone;  
2,4-dihydroxybenzophenone-5-sulfonic acid and salts thereof;

2-hydroxy-4-methoxybenzophenone-5-sulfonic acid and salts thereof;  
2,2'-dihydroxy-4,4'-dimethoxybenzophenone-5,5'-disodium sulfonate;  
3-(2H-benzotriazol-2-yl)-4-hydroxy-5-sec-butylbenzenesulfonic acid, sodium salt; and  
2-(2'-hydroxy-3'-tert-butyl-5'-polyglycolpropionate-phenyl)benzotriazole.